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Veterinary Services in New Zealand

Their Present Organisation and Suggestions for Post-war Reconstruction*

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In industry and the professions it has become the fashion to speak of "post-war reconstruction," and this is a valuable expression in that it serves to focus the attention of all of us on the needs of the community, and sets a period when the community should strive to move forward into order out of chaos, good fellowship out of enmity, and democratic internationalism out of a non-Christian and bitter national- and class-consciousness.

The veterinary profession has much to do to put its house in order before it can play a leading part in agriculture and take its place in an ideal interlocking community, and it behoves all of us individually to give serious consideration to the means whereby this can be achieved. It must and can be achieved if we, as a profession, clarify our aims and bend our minds and wills to the task.

I do not wish to make you think less of present needs, the most pressing being to win the war. If we fail in this we shall, of course, have no say in post-war reconstruction and our wishes will carry no weight.

Our profession arose out of war, in that horses were the only methods of progression for armies in the field and conservation of horses became a first essential. For many years the attention of the veterinarian was focused on the horse and perhaps the sporting dog. Later, other animals usable in war—camels, donkeys, mules, elephants—received attention. Therefore, veterinary science, as taught in the schools during the last century, dealt mainly with the healing of injuries and diagnosis and relief of lameness. No great attention was paid to preventive medicine except perhaps to frame quarantine regulations prohibiting movement of infected animals. An example of this attempt to control the spread of epidemics may be seen in quarantine regulations gazetted in New Zealand as early as 1854.

Slowly the profession has evolved along various lines: colonial services were established to control epidemics in domestic animals; quarantine and the frozen meat trade demanded inspectors to keep the public free from diseases transmissible from animals to man; following the growth of the science of bacteriology, research workers in disease aetiology formed schools of thought, and, as research advanced, and only in the last few years, foodstuffs upon which animals regularly fed became suspect. This provided the necessity for team work in research into imbalance and deficiencies of minerals and vitamins, and it is probably this last phase which will lead the twin professions of medicine and veterinary science into a very close and necessary association.

Advance in learning in the present century has been phenomenal; but how slowly do we apply the knowledge gained! This may be because many of our recognised first principles of health are based on premises which are shown to be false in the light of further research. The time has come when preventive medicine on a large scale should be the aim of the profession rather than curative attention to single animals. There will always be those who by inclination will specialise in surgery and medicine, but in our new order the animal owner will most assuredly demand prevention of disease as the main advance in veterinary science. Research into animal health is carried out intensively in all countries but this will increase considerably as a more basic knowledge of physiology and nutrition is acquired, and it will contribute greatly to a reconstruction of ideas in human preventive medicine. This fact is realised by leading members of both professions.

The main deterrent at present to the maintenance of stock health is the artificiality of the food supply, but this can and will be overcome.

Following research comes the placing of new and authentic knowledge gained in the laboratory and tested on the experimental farm into the hands of the national and private veterinary services. At present there is too great a lag in this direction; or is it that research does not carry its work far enough into the field to make its results safe for release on a practical scale?

During the present war there is a very definite difficulty in finding work for the veterinarian which has a direct bearing on war. His contribution to the war effort of the United Nations lies in his indirect service in the prevention of disease. His duty lies in keeping the standard of livestock at a reasonable level of excellence for post-war production. Along with this, and as part of the work, there is the necessity for enforcing regulations dealing with the exportation of meat, the quarantining of imported animals, and the control of notifiable diseases. It is this last which the Man-power Committees of the country in their wisdom consider especially important, namely, that the country should have some form of insurance against the spread of infectious diseases. In New Zealand there are approximately 66 active veterinarians—13 in private practice, 16 in club practice, 11 in the Research Division, and the remainder in the service of the Livestock Division of the Department of Agriculture. Four veterinarians act in part-time executive positions in the Army and only four not included in the 66, are serving in the Army and Air Force in a non-veterinary capacity. From this rough analysis it is apparent that, in a large stock-producing country, so small a number of men must be prepared to act wholeheartedly as an insurance to the stock owner, and that the majority of veterinarians should realise that their war work at present lies in carrying out their normal occupations to the best of their ability. In many instances such a method of service is not that which the individual himself would choose, but it is demanded by the State as a definite duty in the total mobilisation of man-power.

There is one other sphere which comes to mind in which the veterinarian can be useful, and that is in an advisory or controlling capacity in E.P.S. units formed to deal with war injuries to animals. Each veterinarian should become conversant with the methods of protection of animals against gases and have available means for destruction or treatment of all types of injured stock. His duty, in my opinion, lies in applying his professional knowledge first of all to livestock.

In further discussion of the Army prospects, many of us believe that before very long the horse must return to the military scheme because of change in strategy and more particularly because of the shortage of rubber. Should this happen food will need to be specially grown and considerable preparation will be necessary to acquire horses and saddlery and form remount training stations. In manoeuvres in hill country where motor transport has to be abandoned the horse has been found to have a very definite value in reconnaissance, in guerilla warfare, in messenger service, as senior officers' mounts, and in transport, and not only our own Army but also the American Army stationed in New Zealand may wish to secure horseflesh. We know that Russia, Germany, Japan, and now America are making full use of horses and our special conditions in New Zealand make it more important still for our own Army to remain mobile. Such a necessity would provide considerable additional work for veterinary personnel but the prime need of the stock owner should never be lost sight of.

Now, having referred to the present status of the veterinarian in this country, let us give consideration to our future post-war policy. So much depends on the action of the Government of the day, or should one say the economic capacity and the will of the people after the war? There seems little doubt that New Zealand people will become more and more socialistic in outlook, and so small a unit of the Empire or of the United Nations might well remain in the forefront of experimental legislation for the world community. Many services will be nationalised and it is not too much to visualise nationalisation of land. Naturally, agricultural services also would then be nationalised.

So nationalisation of the veterinary profession is not only possible but likely. What would be the reaction within the profession? Would we welcome the change or would we be inimical? Will we advance with the times and lead our forces or will we be chained and dragged protestingly along in the rear of the chariot of progress? We have followed far too long, let us listen for the trumpet and be prepared to form a vanguard of workers to improve the lot of mankind. This, then, would appear to be an excellent time to take stock of our position, lay our plans, develop our views and be prepared to put them into practice. We can improve the status of the veterinary profession, allying it with our sister profession of medicine, and increase its scope many fold. A greatly enlarged veterinary

* Presidential address presented at the annual general meeting of the New Zealand Veterinary Association (affiliated to the N.V.M.A.) held in Wellington on June 30th, 1942.

service in New Zealand is essential. Growth has been too slow. We must hasten it.

Two major projects might be envisaged, the consummation of which would be of equal benefit to the profession and the country:

(1) Nationalisation of veterinary services.

(2) The establishment of a veterinary school in New Zealand.

(1) National Service

A national service could very easily be developed within the framework of the Department of Agriculture as a much enlarged Livestock Division. One could visualise it as requiring an administrative director and sub-directors of divisions, possibly with the addition of an advisory body constructed on similar lines to the Dairy Board. The sections might be arranged as follows:—

(1) Administration of Stock, Meat Inspection and Quarantine Acts.

(2) Factory service dealing mainly with dairy cows.

(3) Rural—mainly sheep and run cattle.

(4) Urban and suburban practices—mainly dogs and horses.

(5) Research and Diagnostic Divisions.

(6) Extension service.

Such an organisation would require a large number of trained men and would bring the results of all stock health and disease work into one centre where an extension service could be used to broadcast warnings and advice. To obtain men of the right calibre for this work would take a few years but they would soon be forthcoming were salaries provided by the Government on a scale to attract the better type of youth of the country. Similar salaries to those of our medical confrères might well be paid. Much would depend on the system of payment for services by stock owners and probably here a general tax on stock would entitle all owners to veterinary service and advice. The stock owner would, however, be entitled to the best advice available with the additional advantage of diagnostic and research services where necessity arose. It might be found necessary to grade salaries of veterinarians according to the type of work taken up, but there is a danger that this might lead to mediocrity in one or another section.

Nationalisation could not be brought about at once except as a skeleton service. Administration of acts, a partial factory service, a meagre urban-suburban, and a full research service would be available. The remaining members would require training for it is unlikely that overseas governments would view with equanimity a highly paid New Zealand service attracting their brilliant men. So we could visualise over a period of ten years that another 30 to 50 men a year would be required. We, therefore, require a school of our own in New Zealand.

(2) A Veterinary School

There are various bodies in New Zealand which have advocated a veterinary school but obviously the time has not been ripe for veterinarians themselves to encourage the project. With a national scheme in view we could, as a profession, give our official blessing to such a venture. There is already provision in the University of New Zealand syllabus for a veterinary curriculum.

Our first consideration is the position of the school. While agricultural colleges have many facilities which would assist in the training of veterinarians, yet one position has priority over all others, *i.e.*, Wallaceville. Here diagnostic methods and research staff provide an indispensable veterinary background to veterinary education. One might point to the example of Sir Arnold Theiler's Onderstepoort. Partial staffing of the school could be commenced by specialist officers already employed, and this is a common practice in veterinary schools. The McMaster Animal Health Laboratory supplies lecturers to the Veterinary School, Sydney, and practically all lecturers and professors of Onderstepoort are employed in the research laboratories. With this in mind a curriculum designed to meet New Zealand conditions could easily be designed. A good dean would be required, one with experience, and such a man could probably be obtained. The cost of building would be the same whether the position were Wallaceville, Dunedin, Lincoln, or Massey College.

Veterinary education in New Zealand should have a disease prevention bias and this would be marked if the influence of physiology and nutrition rather than pathology and bacteriology were stressed. A general course of training would certainly be necessary but in the fourth and fifth professional years a system of specialisation should take place at the will of the student and on the advice of the staff, and this specialisation could be completed by post-graduate courses in later years. The course would have to be a six-year one; the first year devoted to an entry into fundamental sciences of value and later years to purely veterinary training. Nothing less than six years should be considered.

Students entering the veterinary school must be of high calibre and the experience gained in sending students to Sydney would assist materially in choosing a good type. A system of bursaries could be arranged to cover partially or completely students' expenses, but looking forward to a socialistic state one would rather suggest a free veterinary school for selected students who would undertake to serve in New Zealand as long as required by the State. A free school would certainly attract many young men of good calibre who would otherwise be attracted to other sciences. Probably all education would be free, but in an important primary national service care in selection of students will be of primary importance.

Attention to disease resistance and the maintenance of perfect health in animals is a final ideal, and with such a scheme of service one would think in terms of health instead of as at present in terms of abnormality. It is certain that our outlook on the health of stock would be reflected in the health of the community at large, for human medicine must develop along similar lines and much help could be afforded by one profession to the other. In Great Britain serious discussion is already taking place on the advisability of a national, salaried, medical service. The work required would undoubtedly lead us to team up with students of soil bacteriology where considerable progress is being made in the classification of organisms into helpful and harmful groups. It is not inconceivable that the health of animals may be linked up with the primary health of the soil.

In furtherance of this latter idea of disease resistance, the question of free entry of important foodstuffs might require our advocacy. Streit, in his "Union Now," dealing with a union of democracies, foresees free trade between nations and this may be very useful in supplying our stock with foods containing essential ingredients which we are not capable of producing in this country. It may be, too, that we shall have to change our system of pasture feeding and plough up much of the so-called first-class pasture land and substitute plants of less toxicity and better general food value.

We are at present unable or reluctant to put much of our existing knowledge into practice. To a profession whose first aim is disease prevention, plans for the eradication of such diseases as tuberculosis, Johne's disease, anaerobic infection, internal and external parasitism, etc., should be prepared and put into operation at the first opportunity. Eradication schemes are expensive, but were the position faced seriously in this country money would be forthcoming. A system of insurance of all animals would pay for losses, which would be on a diminishing scale. In any disease eradication scheme an army of inspectors should not be required. The system of appointing more and more inspectors to carry out departmental work must be abandoned. In an expanded and properly constituted veterinary organisation personnel will be available both to advise and educate the farmer in the principles of stock management and disease control, and to provide practical veterinary assistance where required. The benefits of such a service will be obvious and the stock owner will hasten to avail himself of it.

In bringing this matter of reconstruction to your attention I have wished to start a train of thought which, it is hoped, will be augmented from various sources. It might be your desire to have a committee set up to investigate some of the problems, particularly the desirability and cost to the country of a veterinary school and a national service, and that would be useful, but only if it had an official blessing.

We might sum up our post-war aims as the building of a veterinary school with a high scholarship standard of entry, a national service paid sufficient salary to attract talent, and following these the inauguration of disease-eradication schemes, with a final goal of disease prevention and disease resistance. Surely we can have the right to envisage progress! Can we of the present leave the profession just a little better than we found it when we entered it?

Weekly Wisdom

I have three personal ideals. One, to do the day's work well and not to bother about to-morrow. It has been urged that this is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it, more than to anything else, I owe whatever success I have had—to this power of settling down to the day's work and trying to do it well to the best of one's ability, and letting the future take care of itself.—Sir William Osler.

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Dr. William G. Ogg, Director of the Macaulay Institute for Soil Research, Aberdeen, since 1930, has been appointed to succeed Sir John Russell as Director of Rothamsted Experimental Station on Sir John's retirement in September.

CLINICAL COMMUNICATIONS

Tetanus in a Dog

Report of a Case with Short Period of Incubation and Rapidly Fatal Course

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This case of tetanus in a dog is considered to be worthy of record because of (*a*) the infrequency of the disease in dogs, (*b*) the extremely short period of incubation and rapid course, (*c*) the heavy infection of the wound with *Cl. tetani*.

Subject.—A mongrel male fox-terrier about 5 years old.

History.—Had been in ill-health for some weeks, this probably being due to nephritis. On 13.2.43 he arrived home with a cut foot but this apparently healed without any further trouble. On 23.2.43 he became engaged in a fight with another dog on an allotment garden and returned home in a state of collapse, having sustained superficial bites on the legs and a deep penetrating wound in the upper region of the neck. The wounds were not dressed; the owner states that the dog apparently preferred to remain lying down, but occasionally staggered about the room, howled and "tried to climb up the wall." He refused food but drank a little water, evidently having difficulty in opening his mouth. One of us (J. E. M.) was called to attend the dog on 25.2.43, by which time he was *in extremis*. The membrana nictitans was protruding across the surface in both eyes, the right pupil was contracted, the left dilated. The ears, normally pricked, were rigidly erect, the posterior thoracic muscles were twitching, the tail was extended. The temperature was 99·5° F.

Diagnosis.—Tetanus.

Treatment.—The deep wound in the neck was opened up and found to extend to the muscles; there was extensive laceration with necrosis and pus formation; the wound was heavily contaminated with manure. After cleaning the wound as well as possible, it was swabbed wtih hydrogen peroxide and then with mercuric perchloride solution. 1½ grs. of morphine was given subcutaneously. Death, preceded by convulsions, ensued before antiserum could be given.

Post-mortem examination revealed lesions of chronic nephritis and some ecchymoses on the outer surface of the bladder. Otherwise the viscera were normal in appearance.

Bacteriological examination.—Films of the pus and tissue debris in the neck wound were stained by Gram's method. Innumerable gram positive cocci, gram negative rods and gram positive rods were seen; most of the last mentioned were compatible in morphology with vegetating forms of *Cl. tetani* but no rods with terminal spherical spores were seen. Tubes of cooked medium inoculated with pus were heated to 80° C. for half-hour and incubated at 37° C. for three days. Films of these cultures revealed large numbers of gram positive rods with terminal spherical spores and a few short rods with sub-terminal oval spores. *Cl. tetani* was isolated in pure culture by the method devised by Fildes (1925) and was identified by tests on laboratory animals protected and unprotected with antitoxin.

DISCUSSION.—It would appear from a review of the literature that tetanus in dogs is uncommon. McCunn & Fildes (1927) could find only five publications, *viz.*, those by Duncan (1907), Hughes (1906), Tuttle (1904-05), Wood (1910) and Wooldridge (1908), describing cases of tetanus based solely on clinical observations. Additional publications dealing with 20 cases are quoted by Tappert (1926). Since 1927, there have been 16 publications describing 22 cases, *viz.*, Bergeon (1929) four cases, Collier (1941), Fethers (1937), Haigler (1931), Hasselgren (1938), Kuhn (1936), Liégeois (1936) three cases, Morello (1940), Morris (1936), Morris and Dinkel (1937), Nouvel (1935) two cases, Ruggles (1930), Sahni (1938), Schlotthauer (1930), West (1941): a case described by Taylor (1936) as "Non-specific lockjaw in a dog" should also be mentioned. Gray (1936) stated that in 50 years' experience he had seen only six cases of localised tetanus and two cases of generalised tetanus in dogs. The earlier veterinary authors similarly remark on the infrequency of canine tetanus. Thus Blaine (1851) mentioned that he had seen only three cases and Youatt (1895) had seen only four cases in the course of 40 years.

This infrequency is due principally to the resistance of the dog to the toxin of *Cl. tetani*; Fildes (1929) estimates that the dog relative to weight is 300 times as resistant as the horse; he suggests that an overwhelming infection of the wound with vegetating *Cl. tetani* is necessary before the dog is affected. McCunn (1930) advances a further explanation, *viz.*, the habit of dogs to lick their wounds, thus removing infecting organisms. In this connection, it is interesting to note that Kerrin (1929) found 17 out of 37 dogs examined to be carriers of *Cl. tetani* in their intestines.

It may be remarked here that tetanus in the cat is even more rare than it is in the dog. The case recorded by Fildes, Hare and Wright (1931) was the first case ever recorded; since that publication there have been only three further records, *viz.*, those by Bateman (1931), Hopson (1932) and Ludins (1939). It was estimated by Fildes (1929) that the cat is 2,400 times more resistant than the horse to the toxin.

The period of incubation of tetanus depends on so many factors, *e.g.*, position and nature of the infected wound, degree of infection, toxigenicity of the strain of *Cl. tetani*, resistance of the dog, etc., that it is impossible to compare recorded cases. In many of the cases there is no mention of the wound and one can only presume that none was found. Bergeon (1929) records two interesting cases in bitches after whelping, the periods of incubation being two days and four days respectively. Here it might be noted that Tappert (1926), Bergeon (1929) and McCunn and Fildes (1927) are the only authors who record any bacteriological examination; in the latter case the strain of *Cl. tetani* isolated was found to belong to Type III. Of the four recorded cases of tetanus in cats, the only one recording isolation of the organism is that by Fildes, Hare and Wright (1931).

Summary

(1) A case of tetanus in a dog is recorded; the period of incubation and the course was extremely short, *viz.*, about 48 hours from the infliction of the wound to the fatal termination. The nature, site and heavy contamination of the wound with manured soil probably encouraged an overwhelming infection with vegetating *Cl. tetani*.

(2) The organism was isolated without any difficulty.

(3) A review of the literature on tetanus in the dog and cat is given.

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Suspected Tetanus in a Dog

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As indicated in the communication of Moss and McGaughey appearing in this issue, recorded cases of tetanus in the dog are rare. It, therefore, seems worth while to report this suspected case, which clinically was of considerable interest, but upon which no bacteriological examination was carried out.

The subject was a two-year-old black mongrel male, weighing about 23 lb. The only known previous history was an attack of

muscular pain in the lumbar region about two weeks prior to the present illness: this had passed off without leaving any obvious ill effects. Forty-eight hours before examination the animal refused its food and vomited once. Twenty-four hours later it commenced to vomit frequently, was dull and shivering, and showed increased thirst. During the 12 hours preceding examination it became very restless, had an arched back, was unable to drink properly, and appeared in pain. It was first examined at 6 p.m., when the temperature was 101·0° F., and there were hard, dry faeces in the rectum. The patient was able, but unwilling, to stand and was in an extremely distressed condition with panting respirations and anxious expression. The whole of the discernible musculature was in a state of intermittent rigor; there were exaggerated choreic twitchings of the left fore and right hind limbs. Distinct rippling movements could be detected when the hand was placed on almost any part of the body. The tongue presented an extraordinary spectacle: the individual muscle bundles were in a state of spasm and the whole organ, which was congested, resembled a mass of large writhing maggots. The mouth was extremely dry. It was possible to open the jaws to the full extent, but slight resistance was noted. The eyes were normal; pedal reflexes were absent in both fore limbs, but exaggerated in both hind limbs. The tail, which normally was carried curled over the back, was held rigidly horizontal. The response to noise was slightly exaggerated, although not comparable to that produced by strychnine poisoning. The anterior abdomen was very tense. A full dose of chloretone (10 grs.) was given, the owner being warned that this might be an overdose for a dog of such a size, but that relief must be afforded. It was not wished to effect general anaesthesia until the nature of the case was clearer. By 9.45 p.m. the patient was much quieter and seemed to have improved considerably. (Although I had never previously seen a case in a dog, I had by now begun to consider tetanus as a possible diagnosis.)

By 8.30 a.m. the following day the animal was in great distress, lying on its side with limbs extended and quite unable to stand. The back was more arched and there was apparent extensor paralysis: the jaw was fixed at about one-third of its normal extension and the tongue was clenched between the teeth. The forehead was wrinkled in a sagittal direction, the ears were drawn together, there was inward strabismus, and the commissures of the lips were drawn back; the whole face in fact presented a typical "risus sardonicus."

A definite diagnosis of tetanus was now made, and the owner, on questioning, recalled that there had been a slight cut on the pad three days previously. A grave prognosis was given. Nembutal (4 grs. by intravenous injection) was administered. The musculature relaxed and breathing became almost normal, but the mouth remained fixed. 10 ml. of a 3 per cent. solution of magnesium lactate was given intramuscularly and one to two hours later the jaws relaxed. 3,000 I.U. of tetanus antitoxin were given to cope with any fresh toxin. A small quantity of broth was administered by stomach tube. The odour of the breath was uraemic for a time during the day. The urine contained albumin (++). Defaecation occurred. At 8 p.m. normal saline and some sodium bicarbonate were given by stomach tube; there was spasm of the jaws, and the swallow reflex was present. By 10 p.m. the jaw was noted to be relaxing again, but the dog died during the night.

On *post-mortem* examination the only significant findings were hypostatic congestion of the lungs, with bloody froth in the trachea: congestion of the gastric rugae, and congestion of the intestinal mucosa in the region of the ileo-colic valve. The kidneys were macroscopically normal and there were no findings sufficient to account for symptoms or death.

The M.O.H. for Finchley kindly informs me that he has known one case only of human tetanus in the district during the past 15 years.

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ROYAL ARMY VETERINARY CORPS

The following announcements are made in the issue of *The London Gazette*, dated June 1st, 1943: War Subs. Lt. C. S. Bassett (170573) from 7th D.G., R.A.C., to be Lt. March 16th, 1943, retaining his present seniority; Frank Tudor Whitney Jordan (270871) to be Lt. April 27th, 1943.

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With its June number *The Practitioner* celebrates its 75th anniversary. The founder and first editor of the journal was F. E. Anstie, senior assistant physician to Westminster Hospital; later editors were Sir Lauder Brunton, Sir Donald MacAlister (President of the G.M.C. for 27 years), J. Mitchell Bruce, Sir Malcolm Morris, W. Cecil Bosanquet, Sir Arbuthnot Lane; its present editor is Sir Humphry Rolleston, a former member of the Society's Council.

ABSTRACTS

[STERILITY IN BULLS. Fincher *et alia.* (1942). *Cornell Vet.* **32.** 407-423.]

The case histories, clinical findings, sperm picture and the histological changes in the testicles are given for six completely sterile bulls. All apparently exhibited normal libido. The semen in all cases contained either no spermatozoa or grossly abnormal forms. Three of the bulls exhibited testicular hypoplasia whilst the fourth showed this condition associated with early fibrosis. The fifth bull showed testicular degenerative atrophy with early fibrosis. In the testes of the sixth there was tubular atrophy and fibrosis. In some of the cases there was also tubular calcification. Streptococci which produced a green discoloration on blood agar plates were isolated from the testicles and seminal vesicles of bull V and from the seminal vesicles and ampullae of the vas deferens of bull VI. Brief reference is made to the possible aetiology of testicular changes, which includes such factors as heredity, diseases of and poor nutrition during calfhood, poor nutrition at any time, especially lack of vitamin A, genital infections, and endocrine dysfunction. [For a full description of testicular changes and definition of the terms employed, see Lagerlöf (1939). *Vet. Rec.* **51.** 751-754.]

N. J. S.

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[EFFECT OF LARGE SCALE ACTIVE IMMUNISATION AGAINST ANTHRAX. Sterne, M., Nicol, J., and Lambrechts, M. C. (1942.) *J. S. Afr. vet. med. Ass.* **13.** 53-63.]

The authors present statistics which show that there is much less anthrax in well-controlled and well-inoculated areas than in those where inoculation, although on a considerable scale, is more haphazard.

In the Transkei, annual inoculation of all the cattle has reduced the incidence of anthrax considerably. In Natal, "block" inoculation (*i.e.*, the inoculation of the whole cattle population in a large area) is practised in some parts, and in other parts cattle on infected or in-contact farms only, are immunised. The decrease of anthrax in Natal, although marked, has not been as rapid as that in the Transkei.

The figures for the rest of South Africa are unreliable. However, such figures as are available show that anthrax is more prevalent than in the Transkei or Natal. This difference is considered to be due entirely to the variation in the extent to which inoculation is practised.

Approximately six million doses of vaccine are used annually in South Africa.

I. W. B.

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[A NEW COCCIDIUM PATHOGENIC FOR CHICKENS, EIMERIA BRUNETTI n. sp. (Protozoa: Eimeriidae). Levine, P. P. (1942.) *Cornell Vet.* **32.** 430-439.]

Levine describes *Eimeria brunetti*, a new coccidium species in the chicken. The size range of sporulated oöcysts is 20·7 to 30·3μ by 18·1 to 24·2μ; average size, 26·8μ by 21·7μ. Sporulation in 1·5 per cent. aqueous potassium bichromate at 30° C. takes 24 to 48 hours and oöcysts appear in faeces at the end of the fifth day after infection. Morphologically it resembles *E. maxima* more closely than any of the other six species of coccidia previously described from chickens; the author, however, mentions certain features which serve to differentiate *E. brunetti* and *E. maxima*. Oöcysts and developing forms are found in the mucosa throughout the lower half of the small intestine, rectum, caeca and cloaca; in severe infections the upper half of the small intestine may also be involved. Light infections produce no macroscopic lesions. Moderate infections produce a catarrhal enteritis with blood-tinged mucous exudate and there may be present short, transverse, red streaks, arranged in ladder-like manner, throughout long distances of the lower intestine and rectum. Extensive coagulation necrosis and a sloughing of the mucosa occurs in severe infections, the necrotic mucosa forming a dry membrane lining the intestinal tract. The lesions may be continuous or localised in patches and usually the proximal, constricted, tubular entrances to the caeca become dilated and plugged with short, caseous cores. Cross immunity tests show that *E. brunetti* is distinct from any of the hitherto described chicken coccidia with which it might be confused. The periodicity of oöcyst discharge was studied and oöcyst elimination reached its peak between 9 a.m. and 3 p.m. Sulphaguanidine fed at a level of 0·5 per cent. of the ration prevented infection with the new coccidium. An account of an outbreak of coccidiosis in a commercial flock, in which *E. brunetti* was proved to be involved, is given.

J. N. O.

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

July 1st.—Meeting of the Eastern Counties Division, N.V.M.A., at Cambridge, 11 a.m.

July 5th.—Sub-Committee on Collaboration with Animal Welfare Societies, 1 p.m.; Organising Committee, 2 p.m.; Finance and General Purposes Committee, 3.30 p.m., at 36, Gordon Square, W.C.1.

July 6th.—Further Combined Meeting of Joint Veterinary Officers and Public Health and Parliamentary, Finance and General Purposes and Survey Committees, 10.30 a.m. **Meeting of Council**, 2.15 p.m., at the Connaught Rooms, Great Queen Street, W.C.2.

July 7th.—Meeting of tht Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 2.30 p.m.

July 17th.—Meeting of the Society of Women Veterinary Surgeons, Royal Station Hotel, York, 2.30 p.m.

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VETERINARY EDUCATIONAL TRUST: ELECTION TO JUNIOR WELLCOME FELLOWSHIP

Readers will, we feel, read with some pleasure the announcement in our advertisement columns of the establishment of a Junior Wellcome Fellowship for Veterinary Research to be administered under the aegis of the Veterinary Educational Trust. These Fellowships have been founded by the Veterinary Educational Trust through the generosity of the Wellcome Trustees to promote the advancement by Research of Veterinary Medicine and the allied Sciences in their relation to Veterinary Medicine.

We understand that the Veterinary Educational Trust will generally elect one Wellcome Fellow each year, so that there is a probability of three Fellows holding the award together after the first two years.

The Trust was inaugurated less than a year ago and it is pleasing to have evidence already that the Trustees intend to lose no time in implementing its aims and that they have decided not to wait until the full capital has been raised. The fellowships are apparently similar in nature to the well-known Beit Memorial Fellowships for Medical Research which have been of such assistance to young workers embarking on research careers in various fields, and we look forward to the time when funds will permit of the establishment of other fellowships.

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VETERINARY EDUCATION IN WALES

At a recent meeting of the Welsh Agricultural Council held at Shrewsbury, the question of providing facilities for veterinary education in Wales came under consideration. Mention was made of the fact that it appeared that Welsh interests were in danger of being forgotten, as the Minister of Agriculture evidently intended to act soon. Of the veterinary schools proposed to be established under the Loveday Report of 1938 none were to be in Wales. Two propositions were eventually agreed, namely, "This Council considers it essential that adequate facilities be provided for the training of veterinary surgeons in Wales" and "That this Council is of opinion that a Veterinary College should be established in Wales." The exact situation of a veterinary school in Wales and any other details are to be considered at a future date. Taking part in the discussion were Professor Ashby, Major Dugdale, Alderman William Edwards, Anglesey, Alderman Thomas, Carmarthen, Mr. Hugh James, Aberystwyth, Mr. Maud, Pembrokeshire, Mr. J. C. Davies, Denbigh, and Principal Ivor L. Evans, Aberystwyth.

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PERSONAL

Marriage.—King—Inglis.—At St. Mungo's Parish Church, Alloa, on June 12th, 1943, by Rev. J. Pitt Watson, B.D., Alloa, F./O. Eric Thomson, son of the late Mr. P. King and of Mrs. King, Dollar, to Anne Violet Forbes, youngest daughter of Mr. G. C. Inglis, M.R.C.V.S., and the late Mrs. Inglis, Alloa.

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Forthcoming Marriage.—The engagement is announced between William Lang, M.R.C.V.S., 33, Hallgate, Doncaster, youngest son of Mr. and the late Mrs. T. Lang, Auchengreoch, Howwood, Renfrewshire, and Dulcie Byrl, second daughter of Mr. and Mrs. C. H. Milsom, Warlvy, Finch Road, Balby, Doncaster.

R.C.V.S. OBITUARY

Chambers, Thomas, 91, St. James's Road, Dudley, Worcs. Graduated London, April 3rd, 1877. Died June 8th, 1943; aged 91 years.

The Late Mr. T. Chambers, M.R.C.V.S.

In the death of Mr. Thomas Chambers, which we record with deep regret, the veterinary profession has lost one of its oldest members. He had practised in Dudley for 60 years and only retired from active work five years ago.

Mr. Chambers was formerly "father" of the Dudley Town Council and was Mayor of the town in 1917. He was a keen bowls player and one of the oldest members of the Albrighton Hunt; he was also a Freemason and Senior Past Master of the Harmonic Lodge. For many years he was a member of the Staffordshire Yeomanry.

To his widow, three daughters and two surviving sons (one of whom is Major Frank Chambers, of Wolverhampton) we offer our sincerest sympathy in the loss they have sustained.

The funeral took place on June 11th at St. James's Parish Church, Dudley.

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The Late Lt.-Col. A. A. Pryer, D.S.O., M.R.C.V.S.

The late Lt.-Col. A. A. Pryer, whose death we recorded with much regret in our last issue, was born on May 22nd, 1891. He qualified at the Royal Veterinary College, London, on July 10th, 1913, and served there as House Surgeon for one year. He was commissioned in the Royal Army Veterinary Corps in July, 1914.

On the outbreak of war in August, 1914, he became Veterinary Officer-in-Charge, 18th Infantry Brigade, 6th Division, proceeded with them to France on September 6th, and was present at the first battle of the Aisne.

In April, 1915, he returned to the United Kingdom and raised 28 Mobile Veterinary Section, 37th Division, returning with that unit to France in July, and was promoted Captain in August of the same year.

He served with the 37th Division until January, 1917, when he was appointed Deputy Assistant Director, Veterinary Service, General Headquarters, British Expeditionary Force. In February of that year, on the arrival of the Portuguese Expeditionary Force, he was attached to the British Portuguese Mission and was instrumental in stamping out a serious epidemic of glanders amongst the animals imported with that Force. For his services he was appointed a Chevalier of the Portuguese Military Order of the Aviz and awarded the D.S.O.

He returned to General Headquarters in July, 1917, and was promoted Acting Major in August, 1918. On the dissolution of the British Expeditionary Force he was appointed Deputy Assistant Director, Veterinary Service, British Troops in France and Flanders. He served in England for a few months and proceeded to India in January, 1920. After a brief period at Bangalore he was stationed in Mesopotamia until November, 1921, when he was invalided home. 1922 found him at Chanak, whence he returned to India. Returning to England in 1925 he was posted to Edinburgh. In September, 1927, began the first of his many periods as Instructor at the Royal Army Veterinary School. He was the founder and first editor of the Journal of the Royal Army Veterinary Corps, the immediate success of which was unquestionably due to his great industry and ability. Colonel Pryer was a most competent, sympathetic, patient and painstaking instructor and examiner. It was in the natural order of things that he should be selected as examiner in surgery by the Royal College of Veterinary Surgeons in 1933.

On the advent of extensive mechanisation of the Army in 1937 he was offered and accepted an appointment by the Stewards of the Jockey Club and quickly established himself as a most valued and respected official.

In September, 1939, he was recalled to the active list in the appointment of Deputy Assistant Director, Veterinary Service, War Office, an appointment he held until January, 1941, when, on the assumption of Remount duties by the Royal Army Veterinary Corps, he became Assistant Director of Remounts with the rank of Lieutenant-Colonel—an appointment he held at the time of his death.

Colonel Pryer was at all periods of his service one of the outstanding officers of his Corps. His early demise is a very sad blow, not only to his Corps, but to the very many in the profession, in other branches of the Army and to those in civil life, who have good reason to remember his unfailing conscientiousness and sound common sense.

It will be some consolation to his wife and four children, to whom we offer our sincerest sympathy, to know the great regard in which he was held by all and the universal sense of loss engendered by his passing.

The Funeral

The funeral took place on Thursday, June 17th, at St. Michael's Church, Bishop's Stortford. Members of the late Lt.-Col. Pryer's unit formed a guard of honour and the service was conducted by the Vicar, the Rev. W. McCarthy.

The chief mourners were: Mrs. Pryer (widow), Messrs. R. L. Pryer and D. L. Pryer (sons), Mr. and Mrs. W. E. Steed (brother-in-law and sister), Mrs. S. Owen Phillips (niece), Mrs. L. Sparrow (also representing Mrs. Cole). Army colleagues who attended were Brigadier Kelly, Lt.-Cols. Knowles, Stalker, Bamford, Plunkett and Browning; Majors Murphy and Going; Captains Danbury and Green; Lieuts. Hardy, MacKinnon and Morrison.

Others present were Mr. A. W. Moss (also representing the R.S.P.C.A.), Mr. S. B. Vine (representing the Ministry of Agriculture, Animal Health Division), Lt.-Col. J. Brittlebank, C.M.G., M.R.C.V.S. (also representing the Royal College of Veterinary Surgeons), Mr. H. E. T. Mason, M.R.C.V.S., and Mrs. Mason, Mr. R. Millar, M.R.C.V.S., Mr. R. S. R. Mason, Mr. A. Lockwood, Mr. B. Sparrow, Mr. A. Sparrow, Mr. A. R. Burls, Mr. C. Spurge, Miss E. Burls, Miss Fowler, Mr. J. Brazier, Mrs. Boyten.

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GENERAL OBITUARY

WILSON.—Evelyn Mary, dearly beloved wife of Thomas Wilson, M.R.C.V.S., Nantwich, on June 14th, 1943, after a long illness.

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MILK MARKETING BOARD'S SUPPORT FOR THE VETERINARY EDUCATION TRUST

At the annual meeting of the Milk Marketing Board, Sir Thomas Baxter intimated that the Board proposed to give a grant of £10,000 towards the Veterinary Education Trust. "Milk producers, more than any other section of the farming community, stand to gain by improvements in the country's veterinary service," said Sir Thomas. "The loss to the industry each year through diseases in cattle, such as mastitis, Johne's disease, abortion and sterility, runs into many millions of pounds. Nothing is better calculated to improve the position of milk producers than a substantial reduction in the incidence of herd diseases. I am confident that we shall have your wholehearted support to the proposal to give a sum of £10,000 towards this great and urgent undertaking."

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JOINT MEETING ON MILK

A joint meeting of the Food Group (Society of Chemical Industry) and the Nutrition Society will be held on Saturday, July 3rd, 1943, at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1, when "Milk" will be the subject under discussion. The Chairman (Professor H. D. Kay) will open the morning session at 11 a.m., when Mr. J. L. Davies will read a paper on "The Production, Supply and Marketing of Milk," discussion to be opened by Dr. W. R. Wooldridge and Professor A. W. Ashby. The papers for the afternoon session are (1) "Bacteriological Aspects of Milk Processing and Distribution," by Professor A. T. R. Mattick, and (2) "The Chemical Composition and Nutritive Value of Milk and Milk Products," by Dr. S. K. Kon. The discussion on the afternoon papers will be opened by Professor G. S. Wilson and (provisionally) Lord Dawson of Penn.

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NATIONAL MILK PRODUCTION TROPHY

Mr. R. S. Hudson, Minister of Agriculture, announced in London recently that Pembrokeshire, which also headed the Welsh League, had won the championship trophy presented by the Royal Agricultural Society of England for the best record in increased milk production in 1942-43. Two other Welsh counties —Anglesea and Caernarvon—were runners up for the supreme award. Pembrokeshire had 128 points, Anglesey 124, and Caernarvon 90.

Lord Mildmay, President of the Royal Agricultural Society of England, handed the trophy to Alderman Griffiths, Chairman of the Pembrokeshire War Agriculture Executive Committee.

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CLEANSING OF DAIRY EQUIPMENT

The Ministry of Agriculture states that the cleanliness of equipment and utensils is a vital factor in the production of milk of good keeping quality, and the most effective and simple method of ensuring cleanliness is by steam sterilisation. Owing to supply difficulties any considerable extension of the use of steam for sterilising dairy equipment is impracticable, and the Minister of Health has decided to modify the prohibition contained in the Milk and Dairies Order, 1926, regarding the use of oxidising and preservative agents in the cleansing of dairy equipment and utensils. The exception from this prohibition for mechanical milkers and similar appliances used in milking has also been modified. As announced in our issue of June 12th, the Milk and Dairies Regulations, 1943, giving effect to this arrangement have just been issued, and will come into operation forthwith as provisional regulations.

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DOG REGISTRATION IN U.S.A.

The registration of pure-bred dogs with the American Kennel Club reached the record number of 89,100 in 1942; in 1941 the Stud Book entries numbered 88,000. Cocker spaniels led all breeds for the seventh year in succession, the registration advancing to 28,453. As a result of the curtailment of racing, greyhounds dropped from ninth to thirteenth place. There were increases in many of the larger breeds that are now taking their place as members of the various branches of the armed forces. The pug, a toy breed, gained the greatest popularity it has ever enjoyed in the United States, with 153 registrations.—*N. Amer. Vet.*

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LEGAL NOTES

"Suspected" Cow sent to Market.—At Wincanton Petty Sessions, William Evan Hallett, farmer, Shepherd's Farm, Charlton Horethorne, was fined £8 with £1 1s. costs for failing to detain and isolate a cow suffering from, or suspected of suffering from, tuberculosis.

Case for the prosecution was that a veterinary inspector certified that the cow was suspected of having a tuberculous udder and served on Hallett "Form A," requiring him to detain and isolate the animal. Eighteen days later Hallett sent the cow to Wincanton market. Mr. W. Auld, veterinary surgeon, answering Mr. F. S. Boxall (Yeovil), who pleaded not guilty for Hallett, said a bacteriological examination of a milk sample proved negative and the cow had been "cleared." It was a suspected case at the time. It was a most improper thing to send an animal suspected to be suffering from tuberculosis to market for slaughter for human consumption. Hallett said he thought it would be better to have the cow slaughtered than to have her mix with his other cattle, as he had nowhere to isolate her and he was short staffed.

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HIGHLAND AND AGRICULTURAL SOCIETY

At a recent meeting of the Highland and Agricultural Society, Sir Donald Cameron, of Lochiel, was elected President in succession to the late Duke of Portland, and the Duke of Sutherland and the Earl of Leven and Melville were elected Vice-Presidents.

Grants were made of £200 to the Animal Diseases Research Association, £150 to the Glasgow Veterinary College, and £50 to the Scottish Association of Young Farmers' Clubs.

Mr. Peter Gordon Balcraig, Portwilliam, reported that the directors had continued to urge upon the Department of Agriculture for Scotland the necessity for steps being taken to make compulsory the treatment and sterilisation of all swill at the source of its production.

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The Minister of Agriculture has appointed Professor E. J. Salisbury, F.R.S., to be Director of the Royal Botanic Gardens, Kew, in succession to the late Sir Arthur Hill. Professor Salisbury will take up his appointment on September 1st.

ADVERTISERS' ANNOUNCEMENTS

Veterinarians are invited to apply to Messrs. Jeyes Sanitary Compounds Co., Millbrook, Chigwell, Essex, for copies, both gratis, of Jeyes' Animal Book and Jeyes' Poultry Book. Disinfection in the control of disease is the theme of both booklets.

In the course of his speech at the 100th "birthday" meeting of Cooper, McDougall & Robertson, Ltd., Sir Richard Cooper claimed that the company had played a prominent part in the scientific control of animal diseases. Even Britain's export trade in pedigree livestock owed much to the founder of this concern, for he financed the first shipments of pedigree sheep and cattle ever made to some of the countries that are now Britain's most important customers abroad.

It was the invention by William Cooper, a veterinary surgeon of Berkhamsted, of the first sheep dipping powder a hundred years ago that made large-scale sheep husbandry overseas economically possible, and helped to establish the great mutton producing industries of Australia, New Zealand, South Africa and South America, by preventing the spread of parasitic disease. The whole industrial sheep population of the world was now dipped regularly every year.

The discovery by Isaac McDougall of the insecticidal properties of derris, used as a fish poison by the natives of Malay, had led to the use of derris preparations in almost every civilised country in the world for the protection of livestock, crops, fruit, vegetables, flowers and domestic animals and birds. Thousands of pounds had been spent by the Cooper Research Laboratories, which have been responsible for many notable discoveries in insectology and veterinary science, on the scientific development of derris insecticides over the past 20 years.